He loſt ſight of it in a cloud, not above 20 degrees above the ſouthern part of the horizon, into the middle of which it enter'd: but a friend of his, being about 4 miles more ſouthward, ſaw it again, after it came out of this cloud, till it enter'd into another.

The exceſſive hot weather in the preceding part of the month of July, eſpecially on Wedneſday the 11th day thereof, which is ſuppoſed to have been the hotteſt day we have had for many years in England, may perhaps account, in ſome meaſure, for the generation of this fiery meteor.

I intirely ſubmit to you, whether it deſerves to be taken notice of by the Royal Society, among the extraordinary phænomena of the year 1750; and am, with the greateſt reſpect,

SIR,

Your moſt obedient humble ſervant,

Catharine-ſtreet, Dec. 12.
1750.

H. Baker.

III. Thermometrical Tables *and* Obſervations, *in a Letter to* John Pringle *M. D.* & *F. R. S. by* John Stedman *M. D.*

SIR,

Read Jan. 10. 1750.

I ACQUAINTED you ſome time ſince of having kept a journal of the weather in the camp, whilſt I attended the army in the Netherlands; and that, having given particular attention

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tention to the thermometer, I found, that the heat in tents was remarkable for its degree, ſudden and great viciſſitudes, and almoſt continual variation from the ſtate of the open air. As a ſpecimen of this, and in compliance with your deſire, I have ſent you a table of my obſervations on this ſubject, during our incampment in Dutch Brabant, in the laſt year of the war.

It will be proper to obſerve, that, to keep the thermometers, placed in the open air, from the direct rays of the ſun, it was neceſſary to ſuſpend them ſo low, that the reflexion of heat from the earth muſt ſometimes have rais'd the Mercury higher, than would have happen'd, had the inſtruments been remov'd farther from the ground; and it muſt alſo be remember'd, that, for ſome days of this ſeaſon, the weather was uncommonly warm.

In keeping this journal, I obſerv'd,

1. That, in tents, the heat frequently varies 20, 25, and ſometimes 30 degrees in twenty-four hours; reckoning by Fahrenheit's ſcale.

2. That the uneaſineſs, felt upon great changes of heat and cold, depends more upon the ſudden change from the one to the other, than upon the exceſs of either; having often ſeen, in a long courſe of ſultry weather, men ſitting unconcernedly in their tents, when the air they breath'd in was rais'd to about 90 degrees; and the ſame men in winter ſtanding in the open air with no warmer cloaths, and yet without any complaint, tho' the cold was ſome degrees below the freezing point. Whence it appears, that, if ſuch a change of air be gradual, the ſame perſon can, without any uneaſy ſenſation, bear

bear the difference of 60, 62, or 64 degrees of heat.

3. That we are able to endure a greater degree of heat, than what has been hitherto thought enough to kill animals, as will appear from the following example:

A ſoldier being confin'd to a tent call'd the ſtandard-guard, while the weather was ſo extremely hot, that the thermometer roſe within the tent 103 or 104 degrees *; on the ſecond day his pulſe was quick and full, his mouth foul, and he complain'd of thirſt, a nauſea, and head-ach. A thermometer being then kept for ſome time in his arm-pit, roſe to 106 degrees. On the third day all the ſymptoms increaſed; tho' the thermometer applied to his body, roſe no higher than the day before: but, upon my repreſenting the danger from the heat, he was enlarged, and thereupon immediately recover'd.

The heat in this inſtance was ſeveral degrees beyond what the learned profeſſor Boerhaave thought ſufficient to coagulate the blood.

4. That a damp air (*cæteris paribus*) gives a ſenſation of greater heat or cold than a dry air; *viz.* a ſenſation of greater heat, when the Mercury is about 70 degrees or upwards; and of cold, when about 50 degrees, or below that point.

5. That we are able to endure the open air, when heated to a degree conſiderably greater than the air of a room, that is heated by a fire: and, ſince one may ſtay ſome hours in a bagnio, where the heat is

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* By Fahrenheit's ſcale.

is at 100 degrees ‡, we may conclude, that the open air, heated to that degree, will be ſuffer'd with leſs uneaſineſs, than when it is ſo confined.

6. That medicines, for whoſe operation a pretty high degree of heat is neceſſary, cannot be taken ſafely, where the heat is very variable, tho' it ſhould not be leſs than the degree requiſite for the working of ſuch medicines. Thus a mercurial ſalivation may be carried on ſafely, where the heat is kept from 66 to 72 degrees; but, were the heat ſuddenly to vary 15 or 20 degrees, the change would be dangerous, tho' the heat was not to fall below 66 degrees.

7. That the body is ſometimes differently affected, according to the different conſtitutions of the air; tho' the air remains the ſame, ſo far as we can judge, with regard to heat, humidity, and gravity.

8. That, when the thermometer is high, our bodies are very ſenſible of a ſmall addition of heat: but it is uncertain, whether this proceeds from the heat being near the greateſt degree we can bear; or, that a greater proportion of heat is requiſite to raiſe the thermometer the ſame number of degrees after it is high, than when it is low. If this be the caſe, then, in graduating the thermometers, the degrees ought to be marked ſhorter, proportionally to the height of the mercury; but in what proportion, is not yet diſcovered. I am, *&c.*

Edinburgh, Oct. 3.
1750.

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‡ Martin's Eſſays.

TABLE *of* HEAT.
Campaign 1748.

Months. N. S.	Days.	Hours.		Deg. *Fahrenh.*			R.Societ. Therm.	*Edinb.* Therm.
		A. Mer.	*P. Mer.*	Officers Tent.	Open Air.	Soldiers Tent.	Open Air.	
April	10	6		48	42	44	65	10.4
			2	59	56	62	45	13.5
			10	47	40	42	68	10.
	11	5		38	34	34	76	8.5
			1	52	52	58	51	12.6
			11	42	39	39	69	9.8
	12	7		44	44	44	63	10.8
			1	52	50	61	54	12.1
			11	50	47	47	58	11.6
	13	6		40	36	36	73	9.
			1	62	58	67	43	13.9
			11	40	35	35	75	8.8
	14	5		41	34	34	76	8.5
			3	70	67	72	30	15.8
	16	7		57	52	56	51	12.6
			1	70	65	70	33	15.2
			10	52	49	49	56	11.9
	17	7		38	34	34	76	8.5
			2	47	46	52	60	11.2
			11	40	37	37	73	9.3

Months.

Months. N. S.	Days.	Hours.		Deg. Fahrenh.			R.Societ. Therm.	Hamb. Therm.
		A. Mer.	P. Mer.	Officers Tent.	Open Air.	Soldiers Tent.	Open Air.	
April	19	6		40	40		68	10.
			2	48	42		66	10.4
			10	41	38		71	9.5
	20	7		39	32	33	79	8.2
			1	61	58	67	43	13.9
			11	40	38	37	71	9.5
	21	7		47	40	42	68	10.
		11		48	44	45	62	10.8
			10	40	38	40	71	9.5
	22	8		40	37	37	73	9.2
			2	52	50	59	53	12.1
			11	38	34	34	76	8.6
	23	8		40	40		68	10.
			1	51	48		57	11.7
	24	7		40	37	38	73	9.2
			2	50	47	50	58	11.6
			11	42	37	39	73	9.2
	26	7		46	42		65	10.4
			1	51	49		56	11.9
	27	6		40	36	36	74	9.
			1	40	40	38	68	10.
			7	42	42	38	65	10.4
			11	40	37	37	73	9.2

Months N. S.	Days.	Hours.		Deg. *Fahrenh.*			R.Societ. Therm.	*Edinb.* Therm.
		A. Mer.	*P. Mer.*	Officers Tent.	Open Air.	Soldiers Tent.	Open Air.	
April	28	7		54	42	44	65	10.4
		11		48	45	48	63	11.
			8	42	38	42	71	9.5
	29	6		42	33		78	8.4
		11		49	42		65	10.4
			5	47	38		71	9.5
	30	6		46	32		79	8.3
		11		52	40		68	10.
			9	50	48		57	11.7
			11	47	44		62	10.8
May	1	7		46	47	47	58	11.5
			1	47	47	47	58	11.5
			10	44	40	42	68	10.
	2	7		49	47	53	58	11.5
		11		60	64	64	34	15.1
			10	48	44	47	62	10.8
	3	8		56	54		49	13.
			1	60	56		46	13.4
			10	48	44		62	10.8
	4	8		66	64		34	15.1
			1	74	78		15	18.1
			10	56	54		49	13.
	5	8		64	64		34	15.1

Months. N. S.	Days.	Hours. *A. Mer.*	Hours. *P. Mer.*	Deg. *Fahrenh.* Officers Tent.	Deg. *Fahrenh.* Open Air.	Deg. *Fahrenh.* Soldiers Tent.	R. Societ. Therm. Open Air.	*Edinb.* Therm. Open Air.
May	5		1	76	82		9	19.
			11	64	62		37	14.6
	6	8		63	60	63	40	14.2
			2	63	62	63	37	14.6
			11	56	56	56	46	13.4
	7	8		60	56	58	46	13.4
			10	53	50		54	12.1
	8	7		64	62		37	14.6
			1	69	78		15	18.1
	9	2		59	57		45	13.7
		8		59	56		46	13.4
			2	66	66		32	15.5
			3	64	72	76	23	16.8
			11	52	54		48	13.
	10	8		59	72	64	23	16.8
			3	64	58	64	43	13.8
	11	2		53	53		50	12.7
		8		69	69	72	27	16.2
			1	83	83		8	19.2
			3	79	78		15	18.1
			4	87	88	90	1	20.3
			5	77	76	76	17	17.7
			10	64	62		37	14.6

Months. N, S.	Days.	Hours.		Deg. Fahrenh.			R.Societ. Therm.	Edinb. Therm.
		A. Mer.	P. Mer.	Officers Tent.	Open Air.	Soldiers Tent.	Open Air.	
May	14	8		72	70		26	16.5
			1	83	84		6	19.5
			10	78	76		17	17.7
	18	8		68	68	68	28	16,1
			1	76	84	83	6	19.5
			10	80	78	78	15	18.1
	20	8		64	60	64	40	14.2
			1	66	65	65	33	15.3
			5	72	68	74	28	16.1
			7	64	64	64	34	15.1
			10	58	57	57	45	13.7
	21	8		70	72		23	16.8
			1	82	80		12	18.6
			11	67	68		28	16.1
	22	8		70	72		23	16.8
			1	88	86		4	19.9
			11	56	55		47	13.3
	23	8		72	72		23	16.8
			1	66	64		35	15.1
			11	56	55		47	13.3
	24	8		56	56	56	46	13.4
			2	65	64	64	35	15.1
			4	54	54	54	48	13.

Months.

Months. N. S.	Days.	Hours.		Deg. *Fahrenh.*			R.Societ. Therm.	*Edinb.* Therm.
		A. Mer.	*P. Mer.*	Officers Tent.	Open Air.	Soldiers Tent.	Open Air.	
May	24		11	48	48	48	57	11.7
	25	7		56	54		48	13.
			1	56	55		47	13.3
			11	49	48		57	11.7
	26	8		60	68		29	16.
			1	64	70		26	16.5
			10	57	56		46	13.4
	27	8		57	59		42	14.1
			1	73	72		23	16.8
			11	61	60		40	14.3
	28	7		72	74	74	20	17.2
			1	83	85	90	5	19.6
			11	59	59	59	42	14.1
	29	8		79	79		13	18.5
		11		92	86	94	4	19.9
			1	95	92	98	5	21.2
			10	79	66	67	32	15.5
	30	8		87	85		5	19.6
			2	96	94	101	8	21.5
			10	74	72	72	23	16.8
	31	7		73	73		22	17.
			1	84	80		12	18.6
			10	69	69	69	28	16.2

Months. N. S.	Days.	Hours.		Deg. *Fahrenh.*			R. Societ. Therm.	*Edinb.* Therm.
		A. Mer.	*P. Mer.*	Officers Tent.	Open Air.	Soldiers Tent.	Open	Air.
May	31		11	69	63		36	14.8
June	1	7		73	72		23	16.8
			2	92	86	94	4	19.7
			10	72	70	70	26	16.5
	2	8		88	88		1	20.3
			2	96	94	100	8	21.6
			10	72	70	70	26	16.5
	3	8		70	72		23	16.8
			2	79	78		15	18.1
			11	64	60		40	14.3
	4	7		64	64		35	15.1
			1	71	70	81	26	16.5
			11	62	62	62	37	14.6
	5	8		64	64		35	15.1
			1	74	68		29	16.
			10	62	62		37	14.6
	6	5		56	56	58	46	13.4
			2	88	84	94	6	19.5
	8	7		78	72	78	23	16.8
			1	88	79	90	13	18.5
			5	94	80	92	12	18.6
			10	64	62	62	37	14.6
	9	9		81	84	84	15	18.1

Months. N. S.	Days.	Hours.		Deg. *Fahrenh.*			R.Societ. Therm.	*Edinb.* Therm.
		A. Mer.	*P. Mer.*	Officers Tent.	Open Air.	Soldiers Tent.	Open	Air.
June	9		4	88	82	90	9	19.
			10	64	62	62	37	14.6
	10	7		78	76		18	17.7
	11	9		64	61	62	39	14.4
			1	72	70	76	26	16.5
			10	64	62	62	37	14.6
	12	8		64	62		37	14.6
			2	67	66		32	15.5
			10	64	63		36	14.8
	13	8		67	66		32	15.5
			1	85	82	90	9	19.
	14	1		64	62	62	37	14.6
		9		65	65		33	15.3
			1	92	88	95	1	20.3
			11	66	66	66	32	15.5
	15	8		64	64	67	35	15.1
			1	89	88	92	1	20.3
			10	64	62	62	37	14.6
	16	8		64	64		35	15.1
			1	74	74		20	17.4
			10	64	64		37	14.6
	17	5		60	58		43	13.8
			1	72	72		23	16.8

Months. N. S.	Days.	Hours.		Deg. *Fharenh.*			R.Societ. Therm.	*Edinb.* Therm.
		A. Mer.	*P. Mer.*	Officers Tent.	Open Air.	Soldiers Tent.	Open Air.	
June	17		11	66	64		35	15.1
	18	8		88	88	91	1	20.3
			2	98	95	100	10	21.7
			10	88	88	88	1	20.3
	20	8		86	82		9	19.
			1	94	92	97	5	21.2
			10	76	76		18	17.7
	21	8		87	86		4	19.9
			1	96	94	98	8	21.6
			10	87	80		12	18.6
	22	8		88	82		9	19.
			1	100	92	100	5	21.2
			11	84	84		6	19.5
	23	7		82	84	87	6	19.5
		9		97	90	99	2	20.6
			2	96				
			10	88	84	84	6	19.5
	24	7		87	84		6	19.5
			1	90	86	93	4	19.9
			2	94	87	97	3	20.1
			4	72	70	70	26	16.5
	25	2		64				
		7		70	70		26	16.5

Months. N. S.	Days.	Hours.		Deg. *Fahrenh.*			R. Societ. Therm.	*Edinb.* Therm.
		A. Mer.	*P. Mer.*	Officers Tent.	Open Air.	Soldiers Tent.	Open Air	
June	25		1	88	84	90	6	19.5
			10	74	72	72	23	16.8
	26	7		70	68	68	29	15.9
			1	76	72	78	23	16.8
			11	70	70		26	16.5
	27	7		90	87	92	3	20.1
			1	96	90	99	2	20.6
			4	73	70	72	26	16.5
			10	73	68	68	29	15.9
	28	6		67	64		34	15.1
			1	90	87	92	2	20.
			10	78	74	74	21	17.2
July	2	6		61	60	61	40	14.2
			1	72	70	70	26	16.5
			11	64	62		37	14.6
	5	8		67	64		34	15.1
			2	79	80	76	12	18.6
			10	64	62		37	14.6
	8	5		63	60	62	40	14.2
			2	100	90	102	2	20.7
			11	67	61	63	39	14.4
	12	6		72	70	70	26	19.5
			1	83	76	84	18	17.7

Months. N. S.	Days.	Hours.		Deg. *Fahrenh.*			R.Societ. Therm.	*Edinb.* Therm.
		A. Mer.	*P. Mer.*	Officers Tent.	Open Air.	Soldiers Tent.	Open Air.	
July	12		11	69	62	63	37	14.6
	13	7		72	64		34	15.1
			1	83	73		19	17.5
			10	69	61		39	14.4
	16	7		67	63	66	36	14.8
			1	88	82	94	9	19.
			11	74	67	70	30	15.7
	19	8		72	68	68	29	16.
			2	72	66	67	32	15.5
			8	69	64	64	34	15.1
			11	58	54	57	48	13.
	23	6		68		78		
		11		72		88		
			10	64		60		
	28	8		72		79		
			1	78		93		
			11	70		66		
	30	7		67		72		
		11		80		98		
			11	70		67		
Auguſt	2	7		64		59		
			1	73		86		
			11	66		56		

Months. N. S.	Days.	Hours.		Deg. *Fahrenh.*			R.Societ. Therm.	*Edinb.* Therm.
		A. Mer.	*P. Mer.*	In a Houſe.		Soldiers Tent.	Open Air.	
Auguſt	4	8		69		69		
			1	75		97		
	5	6		68		70		
			1	78		92		
			11	73		64		
	7	6		68		61		
			2	69		60		
			11	62		60		
	8	7		69		70		
			1	80		96		
			10	74		66		
	12	5		63		61		
			1	74		86		
			10	70		66		

From *July* 23d, the Obſervations were taken in a Houſe, and a Soldier's Tent.